Appl. No.: 10/608,580
Amdt. Dated: 28 June 2005
Reply to Office Action of: 2 June 2005

REMARKS/ARGUMENTS

The Examiner has asserted that the application is directed to the following patentable distinct species and has required, under 35 U.S.C. 121, that applicants elect a single disclosed species for each of the following groupings for prosecution on the merits to which the claims shall be restricted is no generic claim is finally held allowable. Currently claim 1 is generic. The Examiner requires that applicant elect from each of the following groups A, B, C, *etc.*

Species A1: Wherein the reacting step occurs on the surface of the substrate (claim 3).

Species A2: Wherein the reacting step does not occur on the surface of the substrate (claim 8).

Species B1: Wherein Si:M is greater than 4:1 (claim 22)

Species B2: Wherein Si:M is less than 4:1 (claim 23)

Species C1: Wherein an optical fiber is made (claim 27).

Species C1: Wherein a planar waveguide is made (claim 26).

Species D1: Wherein the method is a CVD process (claims 4-6).

Species D2: Wherein the method is an FHD process (claims 9-10).

Species E1: Wherein j is 1, 2 or 3 (claim 24).

Species E2: Wherein j is 4 (claim 25).

Prior to making any elections applicants review the claims as amended herein and relate the results to the foregoing categories.

I. Claims

Claims 1, 2, 4 - 6, 9 - 13, 26 and 27 remain in the application. Claims 3, 7, 8, and 22 - 25 have been cancelled herein. Claims 1, 4-6, 9-12, 26 and 27 have been amended. When necessary, the dependency of a claim was corrected if the claim it originally

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depended on was cancelled. Applicants believe that the amendments to the claims have added no new subject matter to the claims.

Claim 1 was amended to by changing the word "film" to --layer--. Support for this amendment can be found in Paragraphs [0009], line 1; [0020], lines 2-3; [0022], lines 4-5 and 11-12; [0023], lines 1-2; and [0028], lines 5-7. In addition, the word "dopant" was deleted because it is confusing and because one can prepare a layer of materials using only the precursor of formula $(R_3SiO)_jM(OR')_k$ as is indicated by Sample 1B in Example 1. In addition, a second "wherein clause" was added to claim 1 to clearly indicate that in the resulting glass the Si:M ratio is less than or equal to 4 because when using $(R_3SiO)_jM(OR')_k$ as the sole material to make a glass the Si:M ratio is determined by the number of Si groups present in the precursor. That is, the Si:M ratio is determined by the value of "j".

Claim 4 and 9 were amended to more clearly indicate the methods used to deposit the glass layer. It is clear from the specification and the Example that oxygen is reacted with $(R_3SiO)_jM(OR')_k$ to for a SiO_2/TiO_2 glass.

Claim 10 was amended to recite a glass "layer" rather than a film.

Claim 11 was amended to clearly indicate that a second, silicon-only compound is mixed with $(R_3SiO)_jM(OR')_k$ prior to the deposition of the glass. As a result of using such a mixture one can have a deposited glass in which the Si:M ratio is greater than 4 as indicated in the specification (see Para [0025], lines 1-2). For example, if one uses $(R_3SiO)_jM(OR')_k$ with j = 4 and a silica-only precursor such as tetraethylorthosilicate (TEOS, Example I), one prepares a glass with Si greater than 4. Further, if one uses $(R_3SiO)_jM(OR')_k$ with j = 3 and a silica-only precursor such as tetraethylorthosilicate, one can prepare a glass with a non-stoichiometric Si:M ratio relative to j; and the value can lie between 3 and 4, or it can be greater than 4. The same holds true for j = 1 or 2. Restated, if j = 1, 2, 3 or 4, then whether or not Si:M is non-stoichiometric relative to the value of j and/or whether Si:M is greater than or less than 4 is dependent on the value of j and the relative amounts of $R_3SiO)_jM(OR')_k$ and TEOS that are used *as* would be understood by one skilled in the art after reading the specification.

Claim 12 was amended to recite a silica "precursor" in agreement with the specification; for example in Para [0025], line 1; and was further amended that the silica precursor is mixed wth $R_3SiO)_jM(OR')_k$ prior to the deposition as indicted in Para [0022], lines 5-8.

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Claims 26 and 27 were amended for clarity to indicate that the precursor $R_3SiO)_jM(OR')_k$ is used to deposit a glass layer on a substrate.

II. Election with Traverse

Election

1. As a result of the cancellations of claims 3, 7, 8, and 22 - 25, the species grouping given by the Examiner as A1 and A2 (claims 3 and 8), B1 and B2 (claims 22 and 23) and E1 and E2 (claims 24 and 25) are no longer present in the application. *However, should the Examiner reject applicants traverse, applicants make the following election with regard to Species A, B, and E.*

    Species A: Applicants elect A1, reacting step occurs on the surface of the substrate.

    Species B: Applicants elect B1, Si:M is greater than or equal to 4:1.

    Species E. Applicants elect E2, wherein j = 4.

2. With regard to the remaining species groupings C and D, applicants elect, *with traverse*, C2 (planar waveguide) and D1 (CVD process).

Traverse

1. Applicants respectfully first traverse the C election/restriction requirement on the grounds that the both planar waveguides and optical fibers can be used can be made using either the CVD or FHD processes as is known to those skilled in the art. Further, the two methods each has the same essential component; namely, using the indicated material $R_3SiO)_jM(OR')_k$ with or without added silica precursor.

2. Applicants next respectfully traverse the D election/requirement requirement on the grounds that the CVD and FHD processes can be used to make either planar waveguides or optical fibers as is known to those skilled in the art. Further, the two methods each has the same essential component; namely, using the indicated material $R_3SiO)_jM(OR')_k$ with or without added silica precursor.

3. Lastly, Applicants respectfully traverse the Examiner's election/restriction requirements on the grounds that in order to conduct a comprehensive search regarding any one of the groups, including the group provisionally elected above, it

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would be inherently necessary to review the same pertinent fields and classes of prior art relating to the other groups. Moreover, the important questions of patentability and claim interpretation are likely to be based on substantially similar issues and evaluations for each group of claims, and would require consideration of the same prior art, and combined prosecution is therefore less likely to result in inconsistent or conflicting file histories.

4. **THEREFORE**, in view of the arguments presented above, applicants respectfully request that the Examiner withdraw the election/restriction requirement in the next subsequent Office Action, and continue prosecution of the claims the Examiner stated as Species C and D together.

Applicants believe that no extension of time is necessary to make this Response timely. Should Applicants be in error, Applicants respectfully request the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Response timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Walter M. Douglas at 607-974-2431.

28 June 2005
Date

Respectfully submitted,
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CERTIFICATE OF TRANSMISSION
UNDER 37 C.F.R. § 1.8

I hereby certify that this paper and any papers referred to herein are being transmitted by facsimile to the U.S. Patent and Trademark Office at 703-872-9306 on:
28 June 2005
Date

Walter M. Douglas   28 June 2005
Date

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